

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application. Please amend claims 1, 7, 8, and 10, cancel claim 9, and add claims 12 and 13.

LISTING OF CLAIMS

1. (Currently Amended) An antenna apparatus mounted in a through hole defined by a vehicle body made of metal, the through hole defining an imaginary body disposed in the through hole and continuous with the vehicle body, the antenna apparatus comprising:

a planar antenna having a radiating element and a ground plate, wherein the radiating element is spaced in one direction from one surface of the vehicle body, and

the ground plate is spaced in an opposite direction from an opposite surface of the vehicle body such that the imaginary body is interposed between the radiating element and the ground plate.

2. (Previously Presented) The antenna apparatus according to claim 1, wherein:

the vehicle body defines a concavity,

the through hole is formed in the bottom of the concavity, and

the radiating element is positioned in the concavity.

3. (Original) The antenna apparatus according to claim 1, further comprising:

a metal plate positioned between the radiating element and the ground plate.

4. (Previously Presented) The antenna apparatus according to claim 3, wherein the vehicle body, the metal plate and the ground plate are electrically connected to each other to be at the same electric potential.

5. (Previously Presented) The antenna apparatus according to claim 4, wherein the vehicle body and the metal plate are connected by an electrical connection element.

6. (Original) The antenna apparatus according to claim 3, wherein the radiating element, the ground plate and the metal plate are molded by a resin.

7. (Currently Amended) A method for mounting a planar antenna on a vehicle, the planar antenna having a radiating element and a ground plate, the method comprising the steps of:

boring a hole through a body of the vehicle, the hole defining an imaginary body disposed in the hole and continuous with the body of the vehicle; and

locating the planar antenna in the through hole so that the imaginary body
~~an internal edge of the hole~~ is positioned between the radiating element and the ground
plate.

8. (Currently Amended) An antenna apparatus mounted in a through hole
defined by a metal attachment plate, the through hole defining an imaginary body
disposed in the through hole and continuous with the metal attachment plate, the
antenna apparatus comprising:

a planar antenna having a radiating element and a ground plate, wherein
the radiating element is spaced in one direction from one surface of the
metal attachment plate;

the ground plate is spaced in an opposite direction from an opposite
surface of the metal attachment plate such that the imaginary body is interposed
between the radiating element and the ground plate; and

the metal attachment plate is integral with a vehicle body.

9. (Cancelled)

10. (Currently Amended) An antenna apparatus mounted on a vehicle, the
antenna apparatus comprising:

a planar antenna having a radiating element and a ground plate; and

a metal vehicular body, the vehicular body defining a through hole which has an internal edge and an imaginary body that is disposed within the through hole and is continuous with the vehicular body,

wherein the imaginary body ~~internal edge of the through hole~~ is located between the radiating element and the ground plate.

11. (Previously Presented) An antenna apparatus mounted in a hole defined by a vehicle body made of metal, the antenna apparatus comprising:

a planar antenna having a radiating element and a ground plate; and

a metal plate positioned between the radiating element and the ground plate; wherein

the radiating element is spaced in one direction from one side of the vehicle body;

the ground plate is spaced in an opposite direction from an opposite side of the vehicle body; and

the vehicle body, the metal plate and the ground plate are electrically connected to each other to be at the same electric potential.

12. (New) The antenna apparatus according to claim 11, wherein:

the vehicle body defines a concavity,

the through hole is formed in the bottom of the concavity, and

the radiating element is positioned in the concavity.

13. (New) The antenna apparatus according to claim 11, wherein the radiating element, the ground plate and the metal plate are molded by a resin.